

by William A. Argall
An
Inaugural Thesis
on
Lynanche Trachealis
by
William Argall

of
Virginia
A.D. 1822.

Passed March 17th 1823

Cynanche Trachealis

This disease has received a variety of names as Cynanche Trachealis, Cynanche Stridula, Morbus Strangu-
latorius, Angina Epidemica, Angina Polyposa, Croup &c.
But the term Tracheitis is preferable, because we then have a name
indicative of the seat and nature of the disease.

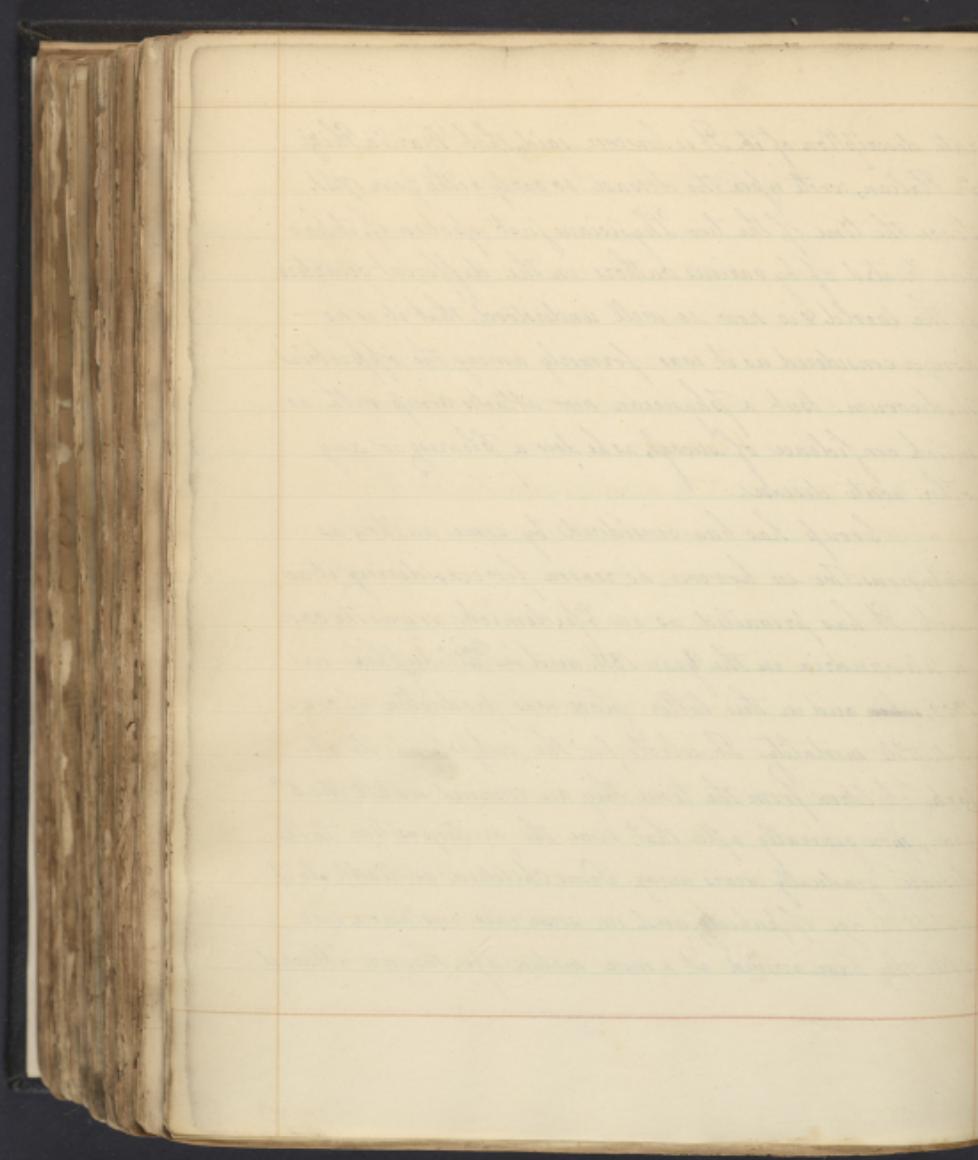
"Croup, according to the definition of Bullen, consists in an in-
flammation of the Glottis, Larynx, or upper part of the Trachea, whether it affects the Membrane of those parts or the Muscles adjoining.
This definition I think in part exceptionable, because according to
the definitions of all the authors whom I have consulted, it is not
confined to the upper part of the Trachea; but on the contrary, we
frequently find the disease extending through the whole
course of the Trachea, into the Bronchia, and sometimes even
into the substance of the Lungs.

It is strange that we have no account of this disease
prior to the time of Horne who wrote about the year 1755,
and according to Bullen was the first who gave an accu-

Wm. H. Brewster

rate description of it. It is however said, that Martin Ghizi an Italian, wrote upon the disease so early as the year 1742. Since the time of the two Physicians just spoken of, it has been treated of by various authors in the different quarters of the world & is now so well understood, that it is no longer considered as it was formerly among the opprobria medicorum. But a physician now attacks croup with as much confidence of success, as he does a pleurisy or any other acute disease.

Croup has been considered by some authors as contagious. We see however no reason for considering it as such. It has prevailed as an Epidemick; as was the case in Alexandria in the year 1811, and in Philadelphia in 1822, ~~when~~ and in this latter place was productive of considerable mortality. It selects for the subjects of its attack children from the time they are weaned until the 5th year, more generally after that time the predisposition to the disease gradually wears away. Some children are liable to it until the age of puberty, and in some rare instances, even after they have arrived at a more mature age, they are attacked

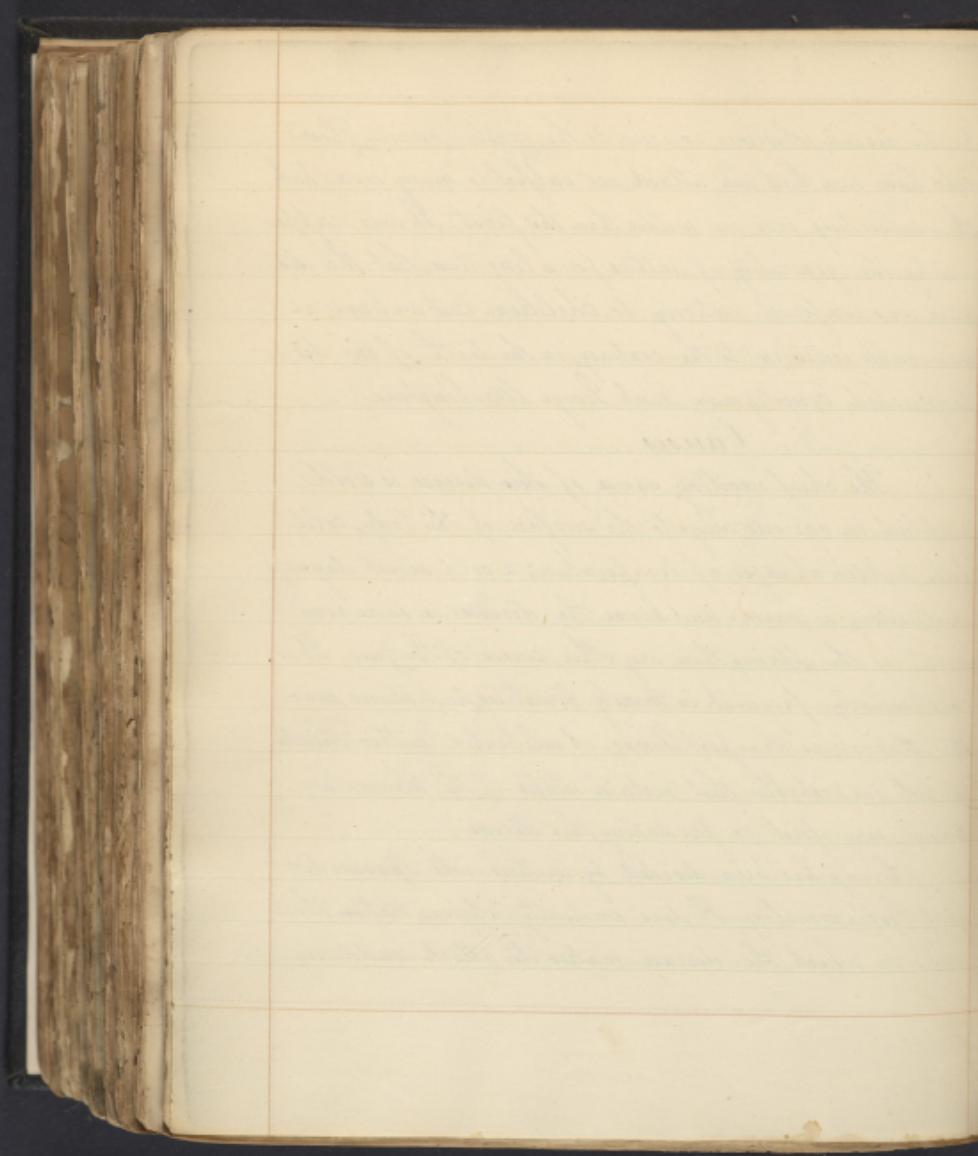


by the disease whenever exposed to the exciting causes. Those who have once had an attack, are subject to many more; but the succeeding ones are milder than the first. It was supposed by the generality of authors for a long time, that the disease was confined entirely to children. But we have a memorable instance to the contrary, in the death of our distinguished countryman Genl George Washington.

Causes

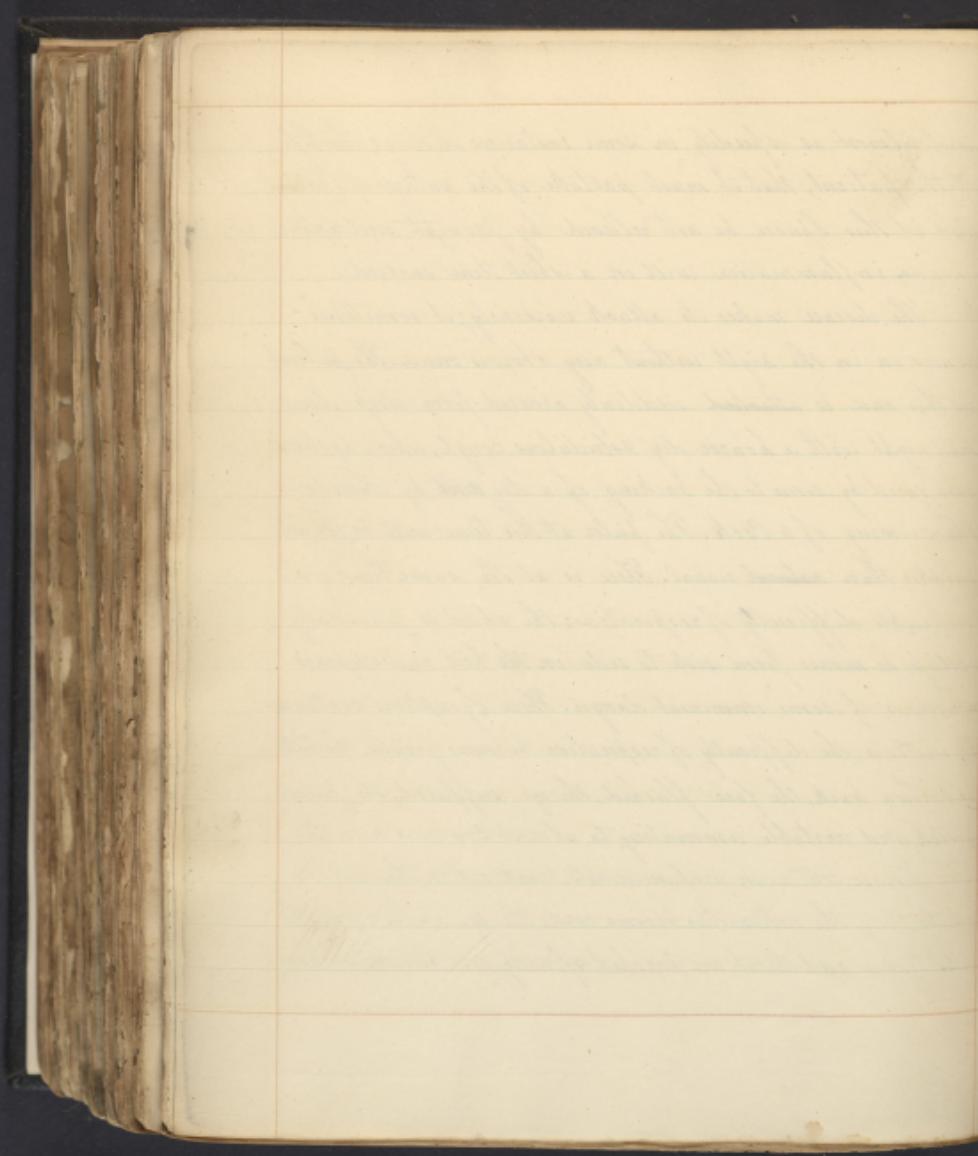
The chief exciting cause of this disease is cold applied in various ways to the surface of the body, cold & hot sudden changes of temperature; a cold moist day ~~successing~~ succeeding a warm. And hence the disease is more common in the Spring than any other season of the year. It is particularly frequent in marshy countries and places near the seacoast; as Sea-port Towns. A celebrated author thinks it not improbable that certain states of the alimentary canal may assist in producing this disease.

This has been divided by authors into Spasmodic and Inflammatory. It does evidently appear that in those cases in which the disease makes its attack suddenly



and almost as speedily in some instances destroys the life of the patient, that it must partake of the nature of a spasmodic affection, and if this Spasm be not relieved by prompt and active means, inflammation will in a short time succeed.

The disease makes its attack variously; it sometimes comes on in the night without any obvious cause. The patient in this case is attacked suddenly aroused from sleep about midnight with a hoarse dry & hideous cough, which has been compared by some to the barking of a dog and by others to the crowing of a Cock. The pulse at this time will be found quicker than ~~usual~~ usual. There is at the same time considerable difficulty of respiration: the child is unusually restless, he moves from side to side in the bed, and appears conscious of some imminent danger. These symptoms continue to increase, the difficulty of respiration becomes greater, the head is thrown back, the face flushed, the eye suffused, the pulse quick and irritable, amounting to almost 200 in a minute. The disease continues, profuse sweat breaks out on the surface of the body, the extremities become cold, the eye appears wild, the lips tongue and throat are parched & usually concrections succeed

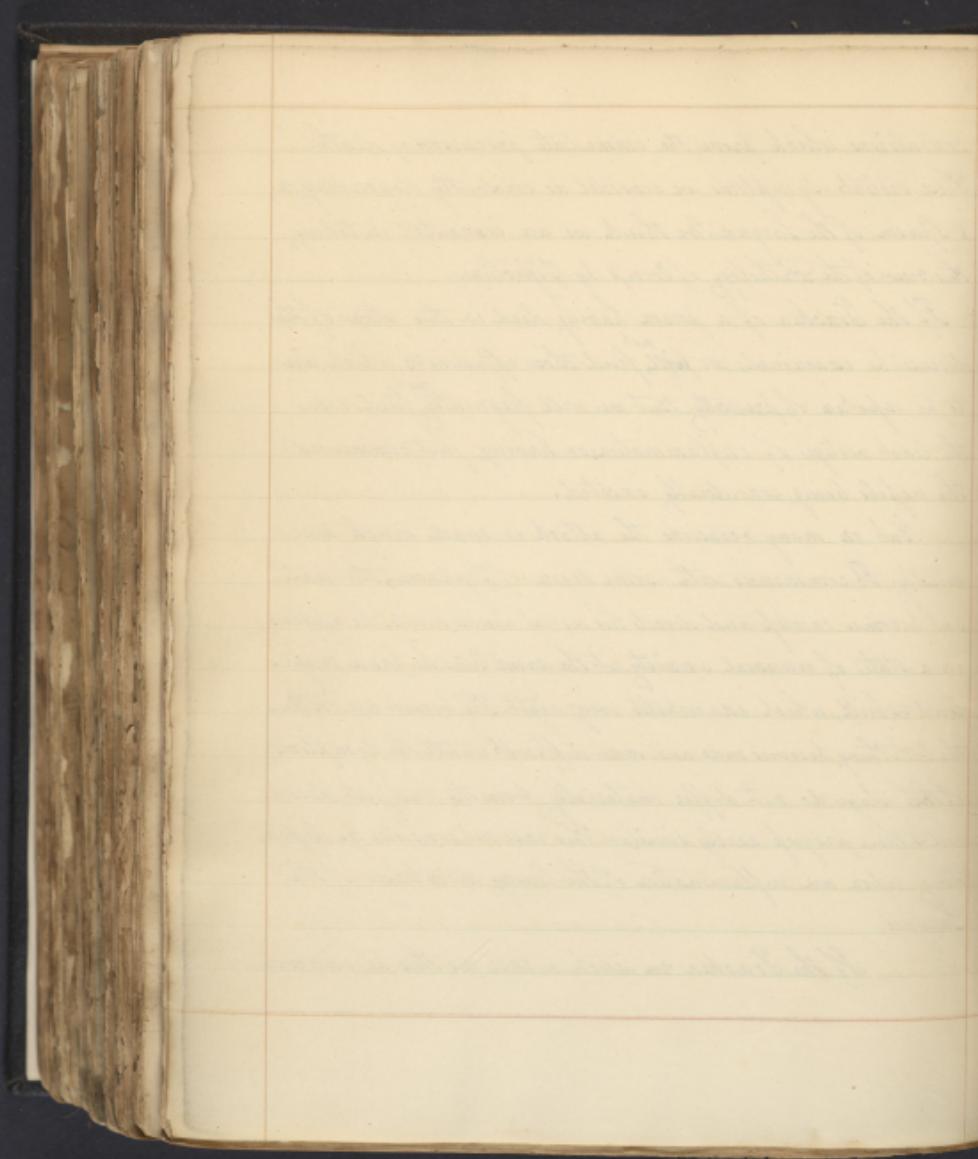


convulsions which prove the immediate precursor of death.
These violent symptoms we consider as evidently depending on
a Spasm of the Larynx. We think we are warranted in taking
this view of the Pathology of Droug by Spiration.

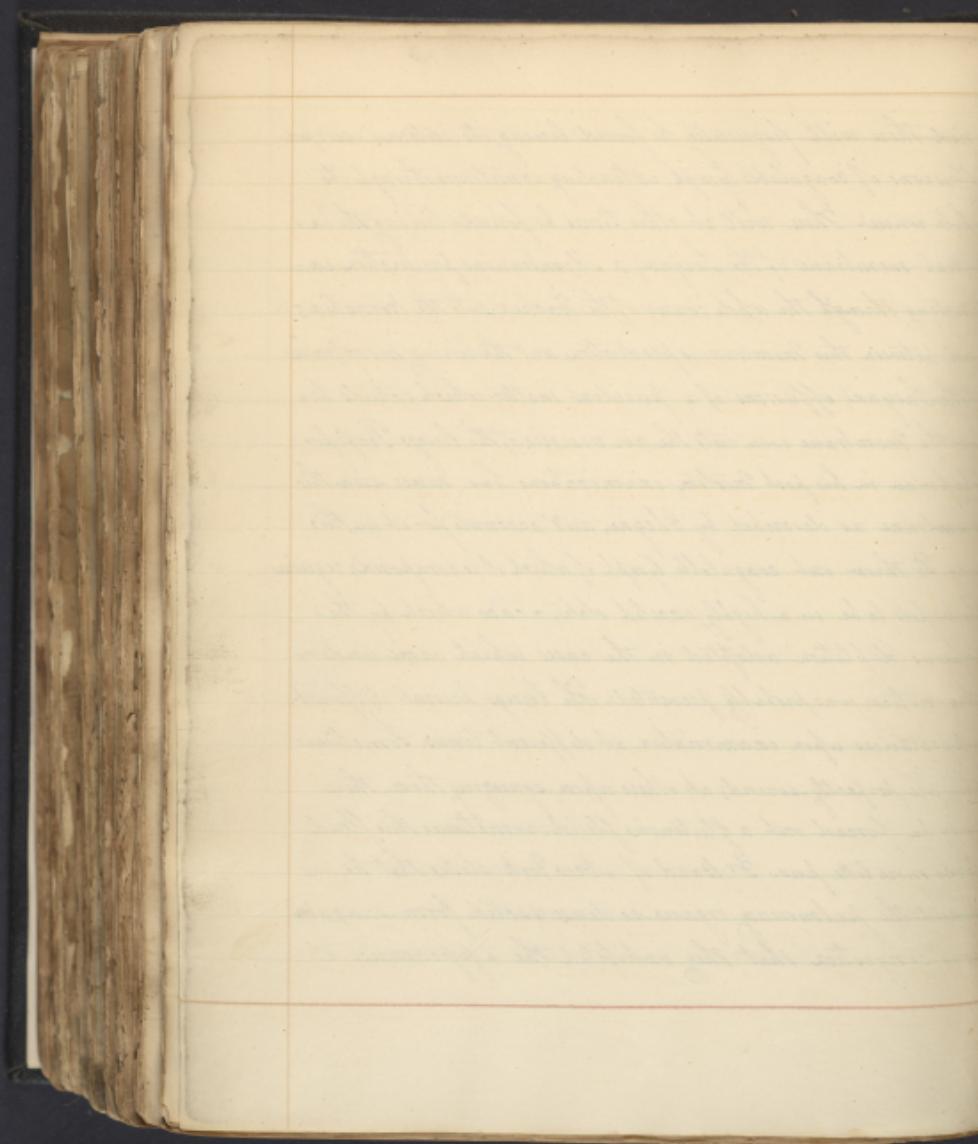
If the Trachea of a person having died in this stage of the
disease be examined; we ^{will} ^{not} find those effusions &c which are
to be spoken of previously. But we will frequently ^{not} find even
the least vestige of inflammation; or having just commenced
the vessels being considerably excited.

But on many occasions the attack is made much more
mildly. It commences with some degree of dyspnoea, the patient
at becomes pale and deserts his usual amusements, he appears
in a state of unusual anxiety, at the same time he has a congle-
lant & dull, which exacerbates very right. The bowels are costive,
the breathing becomes more and more difficult until the symptoms
of this stage do not differ materially from the one just de-
scribed & their progress nearly similar. This case we consider as de-
pending upon an inflammation of the living membrane of the
Larynx.

If the Trachea in such a case as this be exam-



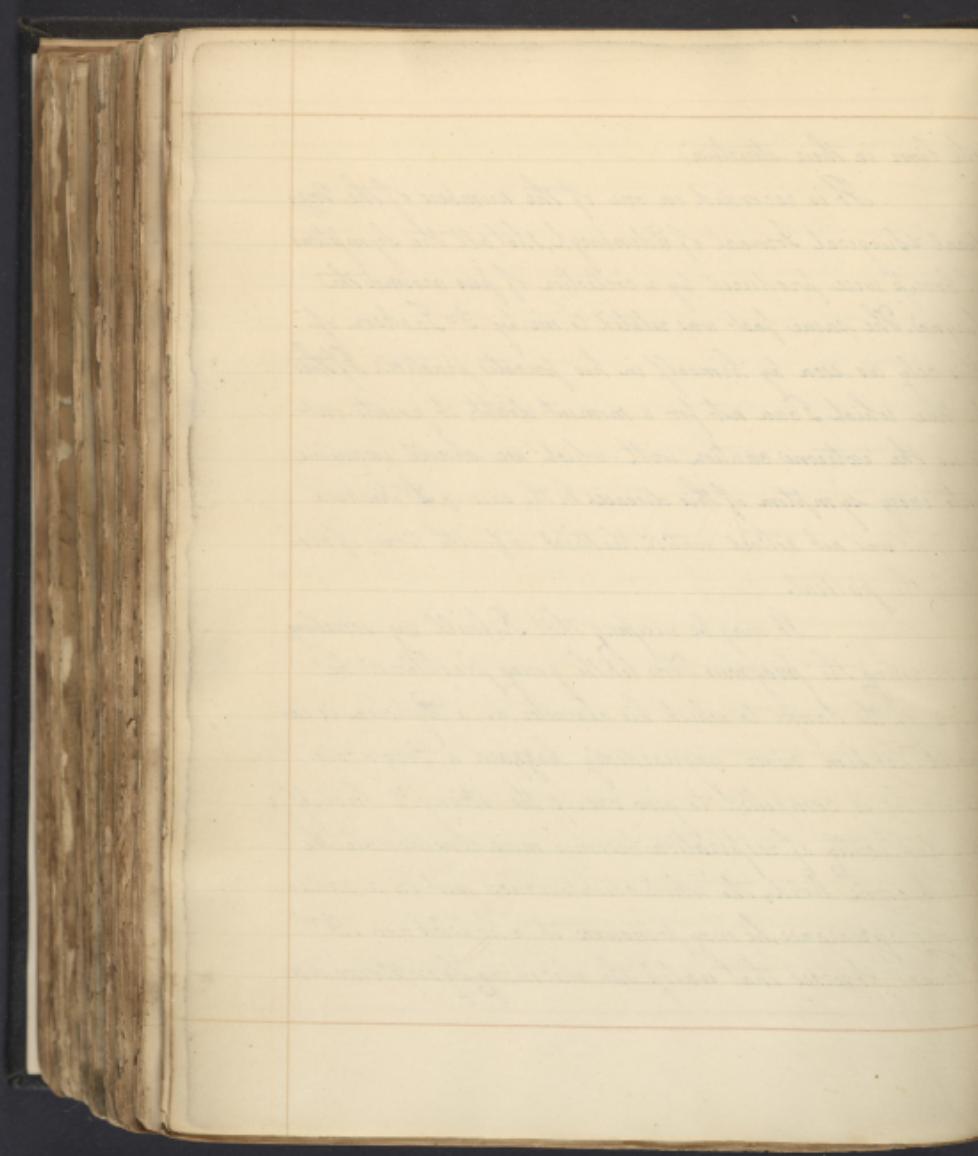
ined, there will frequently be found lining its internal surface effusions of coagulable lymph, extending sometimes through its whole concave. There will at other times be found lining the internal membrane of the Larynx, a Membranous production extending through the whole concave of the Trachea into the Bronchia; and between this Membranous production and the lining membrane of the Larynx, effusions of a purulent matter which extends below the membrane even into the air vesicles of the lungs. Professor Chapman in his post Mortem examinations has never seen this membrane as described by Cheyne, and accounts for it in this way. To throw out coagulable lymph of which it is composed, requires the vessels to be in a highly excited state, a case which by the obvious distinction adopted in the cases which came under his notice, was probably preexisting. The lungs present different appearances upon examination, at different times. Sometimes they are perfectly sound; at others upon squeezing them, there may be forced out a glutinous fluid; sometimes this fluid looks more like pus. Dr Bard of New York states that he has found the pulmonary organs so dense & solid from sanguinous congestion that they exhibited the appearance of



the liver in their structure.

It is recorded in one of the numbers of the Medical & Surgical Journal of Edinburgh, that all the symptoms of bronch were produced by a collection of pus around the lungs. The same fact was related to me by Dr Jackson of this city as seen by himself in his practice. If this be true which I can not for a moment doubt, it points out to us the extreme caution with which we should examine into every symptom of this disease. In the case of Dr Jackson the pus was not noticed until the third or fourth time of visiting the patient.

It may be necessary that I should say something concerning the prognosis. Let the young practitioner be aware of the danger to which his character as a Physician is exposed. Let him never unguardedly hazard a Prognosis. When he is compelled to give one; if the strength fail, if the difficulty of respiration becomes more considerable, the lips become livid, the whole countenance put on a cadaverous appearance, he may pronounce it a hopeless case. Dr. Firriar observes that unless the alarming symptoms are

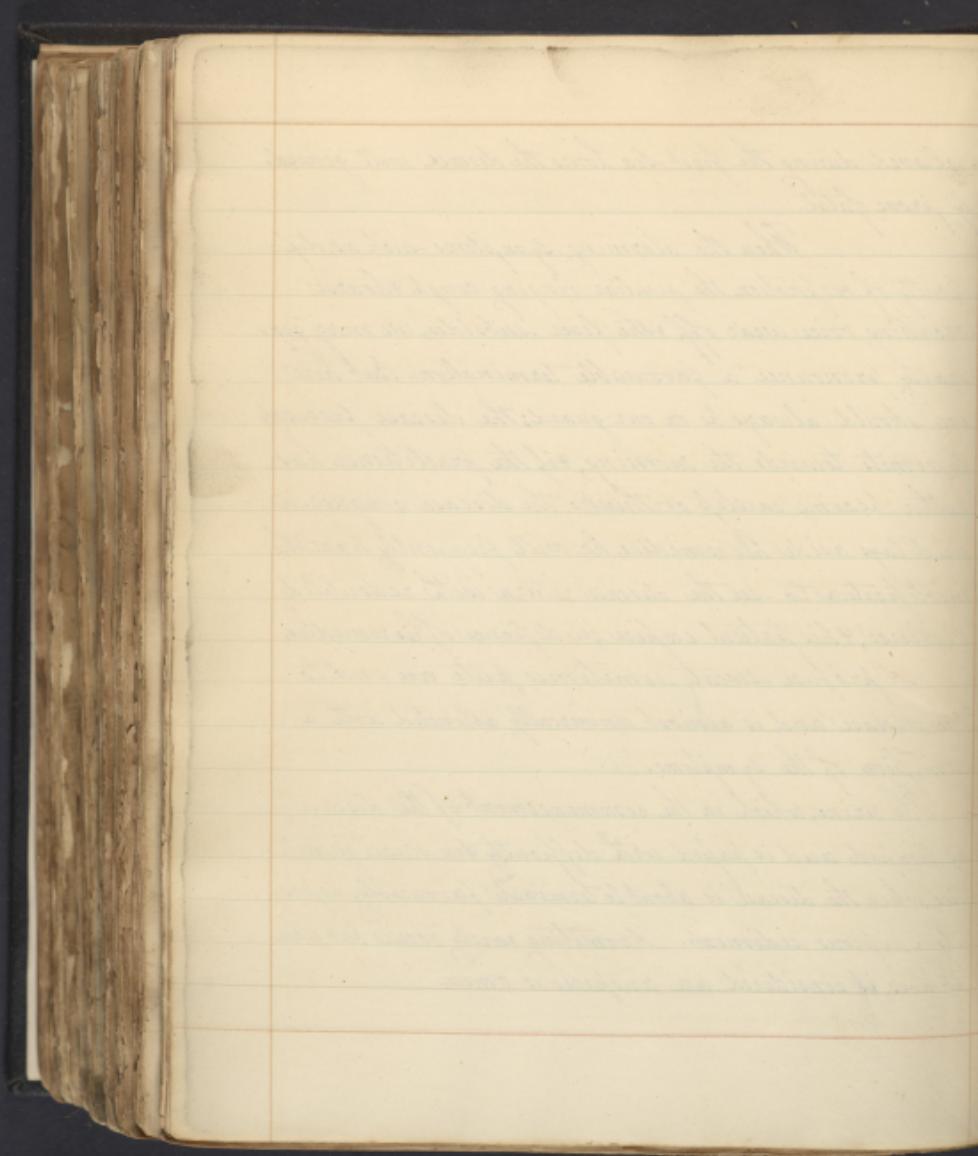


relaxed during the first six hours the disease will generally prove fatal.

Then the alarming symptoms such as, difficulty of respiration, the peculiar ringing cough & hoarse croaking voice wear off & the fever subsides, we may generally pronounce a favorable termination. But here we should always be on our guard; the disease frequently relapses towards the morning, & if the practitioner has either become careless or thinks the disease conquered and lays aside his remedies, he will frequently have the mortification to see the disease return with redoubled violence, & his patient expire in defiance of his remedies.

A profuse sweat sometimes puts an end to the disease and is almost universally attended with a remission of the symptoms.

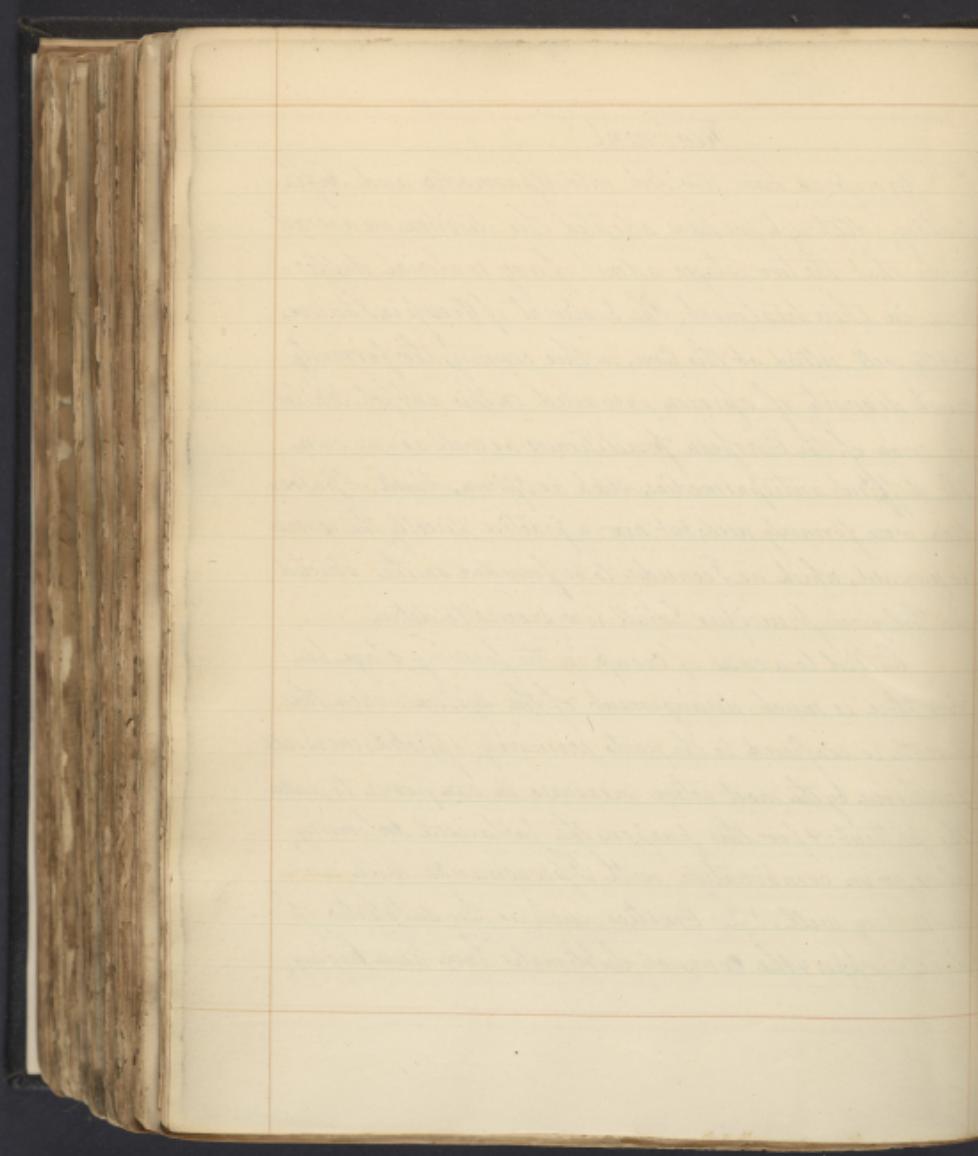
The urine, which in the commencement of the disease is limpid and is passed with difficulty in small quantities when the disease is about to terminate favorably, deposits a copious sediment. A vomiting rarely occurs but when it does, it considered an auspicious omen.



Treatment

Croup we have divided into spasmotic and Inflammatory. Although we have adopted this division we are not aware that the two stages admit of any material difference in their treatment. The treatment of Croup is, I believe, pretty well settled at this time, in this country, the formerly much diversity of opinion prevailed on this subject, while by some of the European practitioners as well as our own, the different antispasmodics, such as Opium, Musk, Asafoetida were formerly used; but now a practice directly the reverse is pursued, which as I consider to be founded on the strictest pathological principles I shall now proceed to detail.

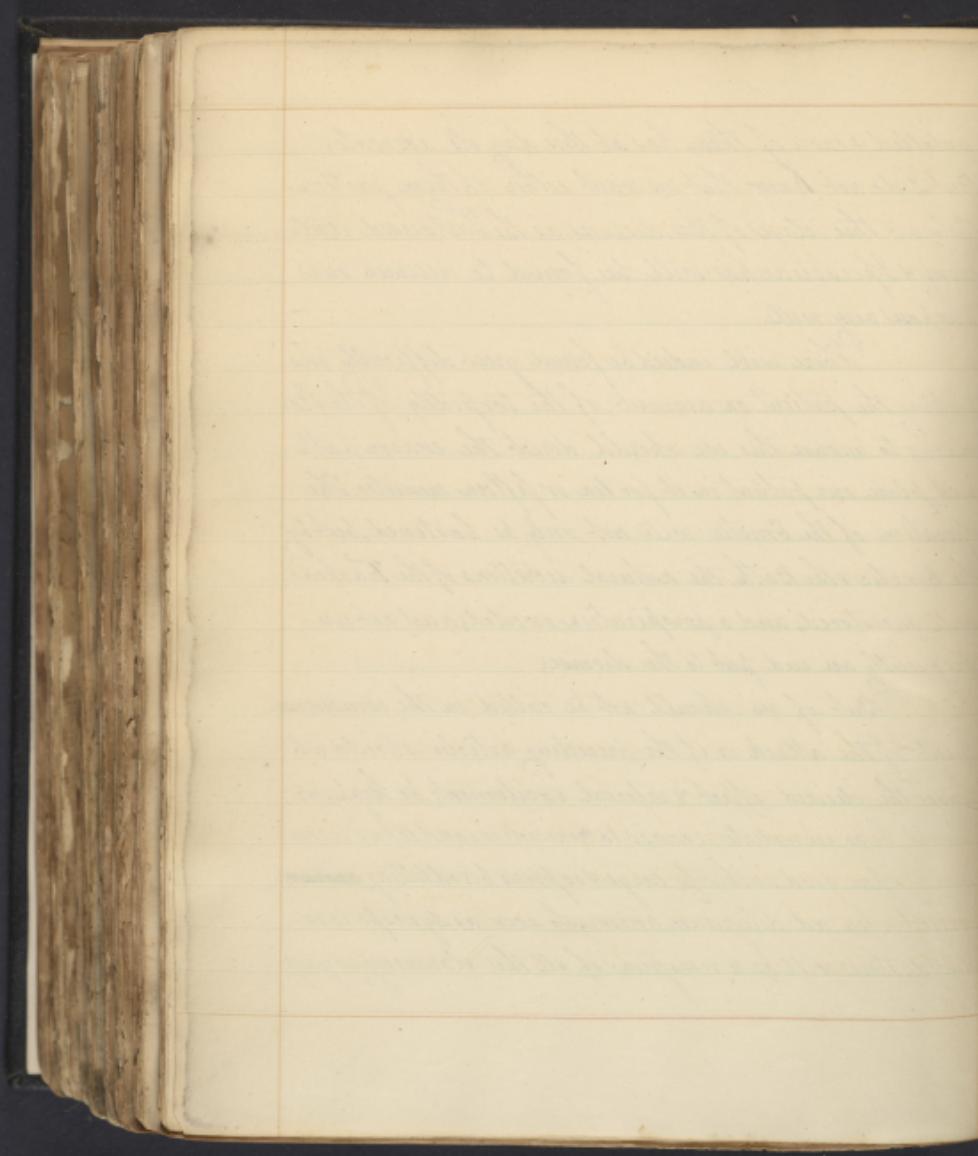
Called to a case of Croup in the forming stage before there is much derangement of the system when the disease is confined to the parts primarily affected; we should endeavor by the most active measures in our power to take the patient: & for this purpose the tartarised Antimony alone, or in combination with Specacuanha will answer very well. Other Emetics such as the Sulphates of Zinc & Copper & the common Sublimate have been highly



extolled & each of them has at this day its advocate. But I do not know that we want either of them particularly at this stage of the disease, as the ^{Frictional} ^{Frictional} Anti-mus & Specacuanus will be found to answer our purpose very well.

There will indeed be found great difficulty in putting the patient on account of the torpidity of the Stomach; to acomose this we should direct the warm bath and place our patient in it for ten or fifteen minutes. The operation of the Emetic will not only be hastened, but by the Emetic & the Bath, the natural secretions of the Trachea will be restored, and a perspiration excited, and not unfrequently an end put to the disease.

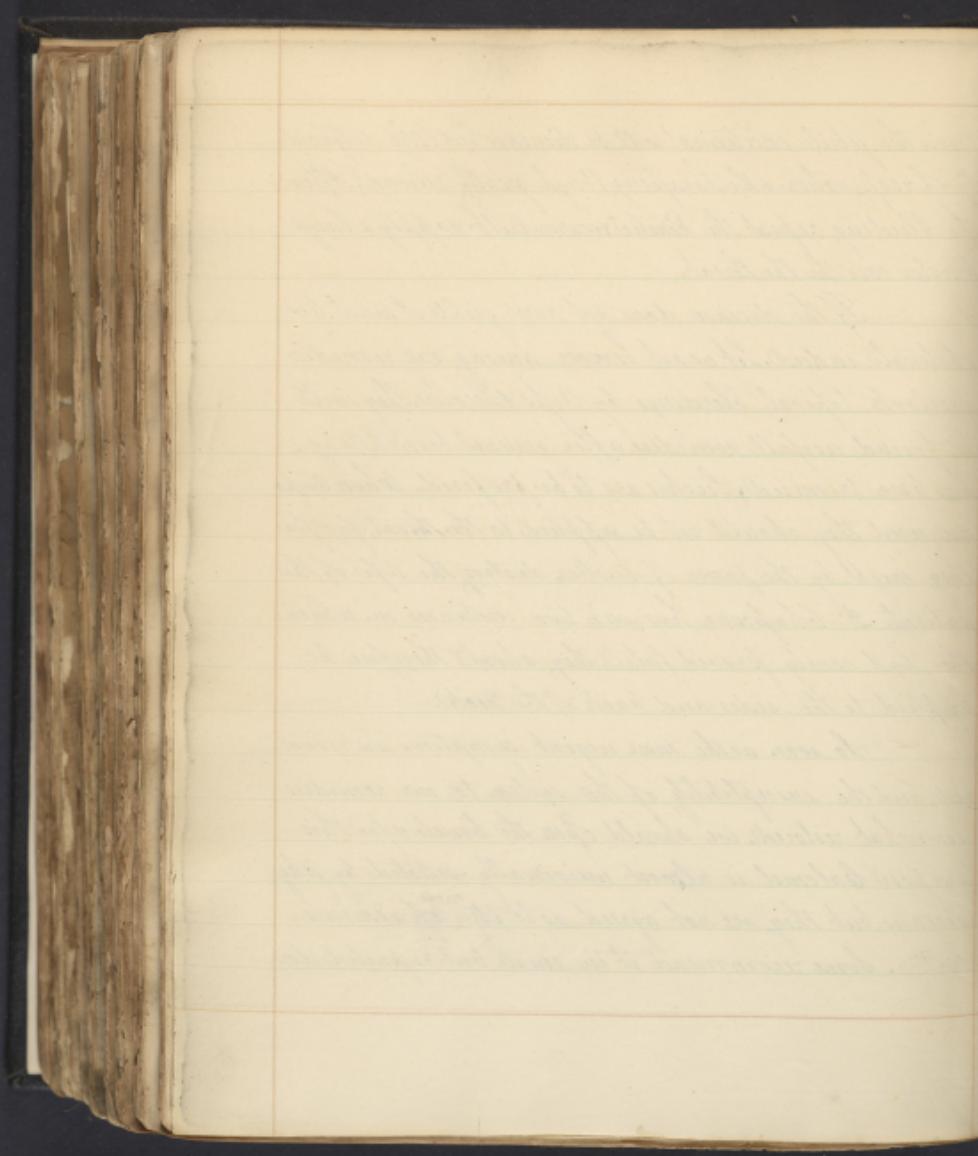
But if we should not be called in the commencement of the attack or if the preceding articles should not have the desired effect & arterial excitement be high, we should have immediate recourse to Morivation; and let us recommend upon good authority large & copious bloodletting ~~and~~ carried even ad deliquitum animi. So soon as Syncope is induced, there will be a remission of all the alarming symp-



time the fibrile excitement will be diminished, the difficulty of respiration & the harassing Cough greatly relieved. After the bleeding repeat the Friction & warm bath & apply a large plaster over the throat.

If the disease does not now yield it must be obstinate indeed. Let us not however among our remedies overlook topical bleedings by Cups & Leeches. They will be found usefull remedies after general bloodletting, has been premised; Leeches are to be preferred. When Cups are used they should not be applied to the throat, for fear they might by the power of suction destroy the life of the patient. Dr Chapman has seen two instances in which they had nearly proved fatal; they should therefore be applied to the sides and back of the neck.

So soon as the more urgent symptoms are removed, and the susceptibility of the system to our remedies somewhat restored, we should open the bowels & for this purpose Calomel is almost universally selected by physicians, but they are not agreed as to the ^{mode} of administration. Some recommend it in small but repeated do-



ses; others in large ones that it may act speedily and promptly. In this particular stage of the disease observes Professor Chapman a thorough opening of the bowels carries off the lingering symptoms, obviates a relapse, & confirms the convalescence.

Though the force of the disease will generally be broken down by these remedies, there will remain some hoarseness & sometimes considerable cough & tightness about the chest & deficiency of expectoration. Here the different Expectorants come in with advantage, such as antimonial Wine, Solution of Tartar Emetic, the Five Syrup, which is spoken of in high terms by Professor Cox and is prepared by him in the following manner.

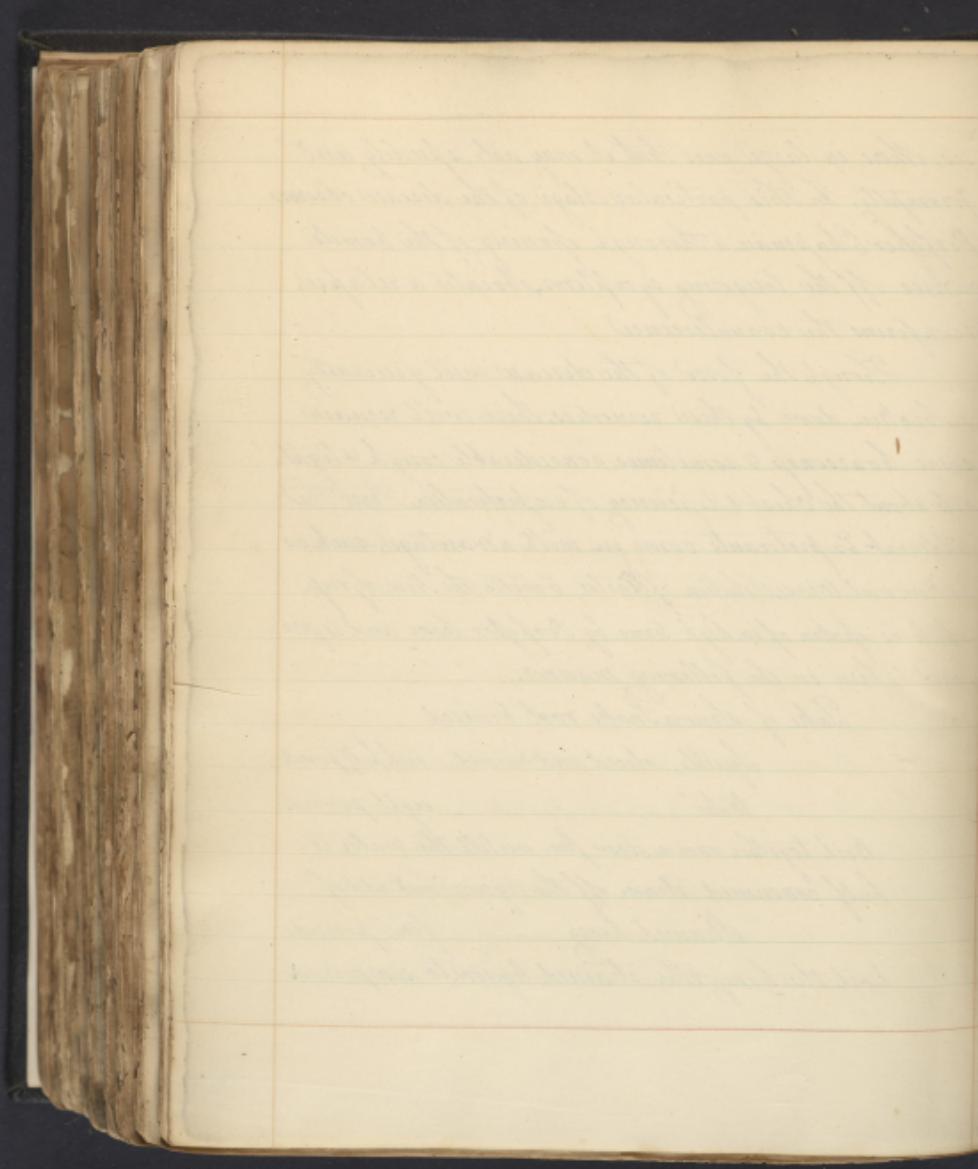
Take of Siccum Snake root bruised

Spurils, sliced and bruised... each half pound

water eight pounds

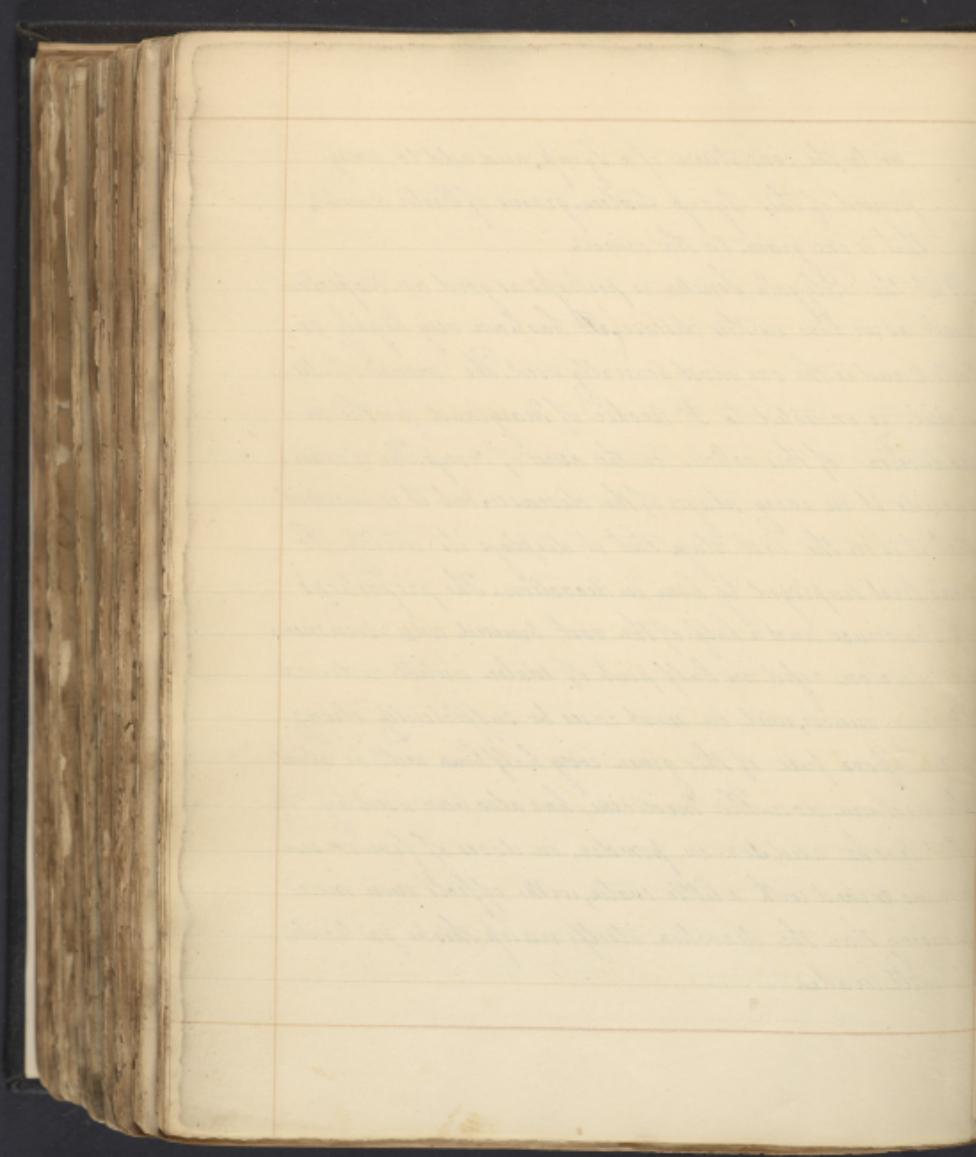
boil together over a slow fire until the water is
half consumed strain off the liquor and add of

Strained honey four pounds
boil the honey & the strained liquor to six pounds



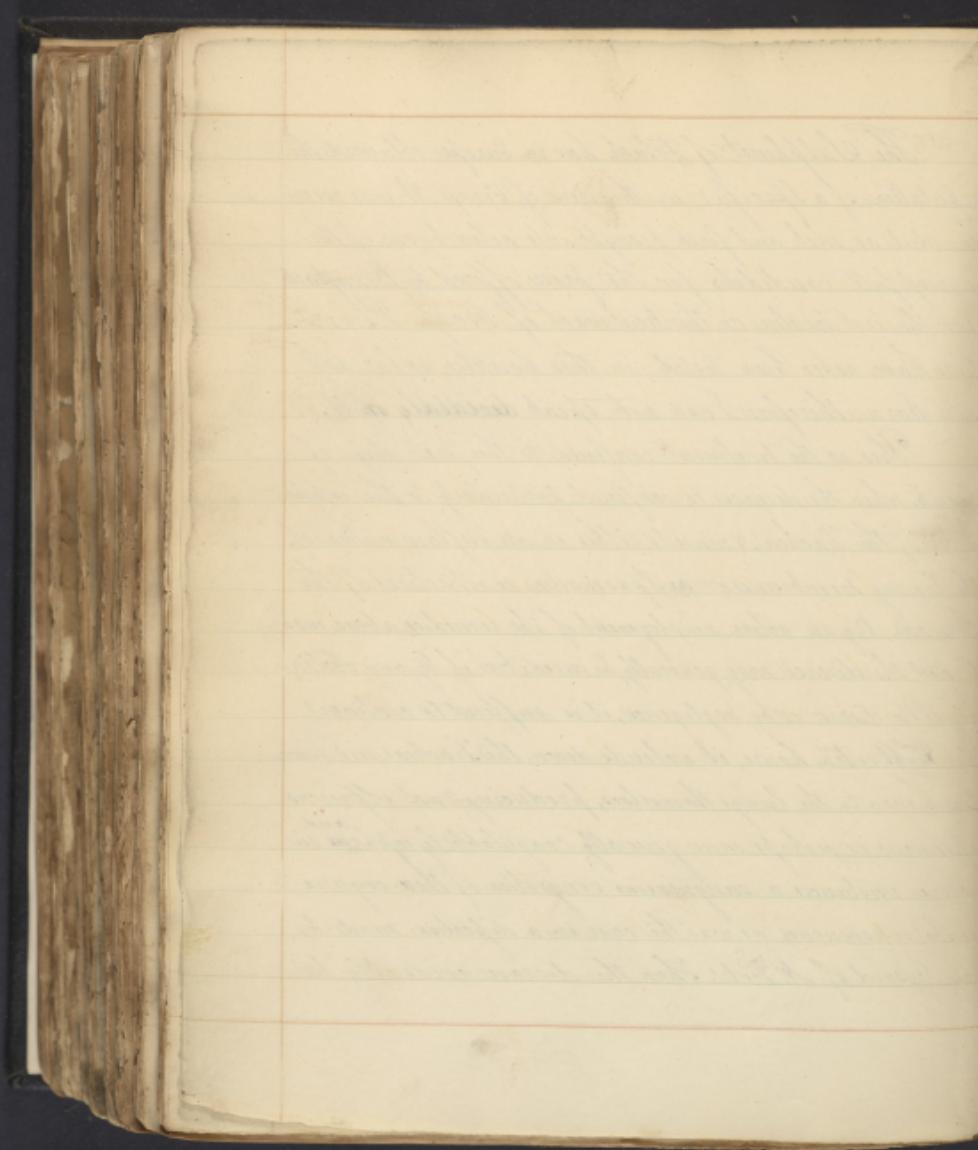
or to the consistence of a Syrup, and add to every
pound of this Syrup sixteen grains of Tartar emetic;
that is one grain to the ounce.

But the *Polygala Sibirica* is perhaps as good an expecto-
rant as we have in this disease. It has been very highly ex-
tolled and is the one most generally used. The science of Me-
dicine is indebted to Dr. Archee of Maryland for the in-
troduction of this article in the cure of Croup. He recom-
mends it in every stage of the disease, but it is evident
that it is in the last stage that it displays its utility. It
was first employed by him in decoction. The proportions
of one ounce and a half of the root bruised and simmered
in a close vessel in half pint of water until reduced
to four ounces, will in most cases be sufficiently strong.
A tea-spoon full of this given every half hour will be about
the medium dose. This Medicin has also been used by
Dr. Archee and son in powder, in doses of five or six
grains mixed with a little water, with effects even more
pleasing than the decoction itself, unless this be particula-
rly well made.



The Sulphur of Flask has in Europe obtained the reputation of a Specific in the cure of Croup. It was recommended as such and first brought into notice by one of the successfull candidates for the prize offered by Bonaparte for the best treatise on the treatment of Croup. Its virtues have never been tested in this country, so far as I can learn; therefore I can not speak decidedly of it.

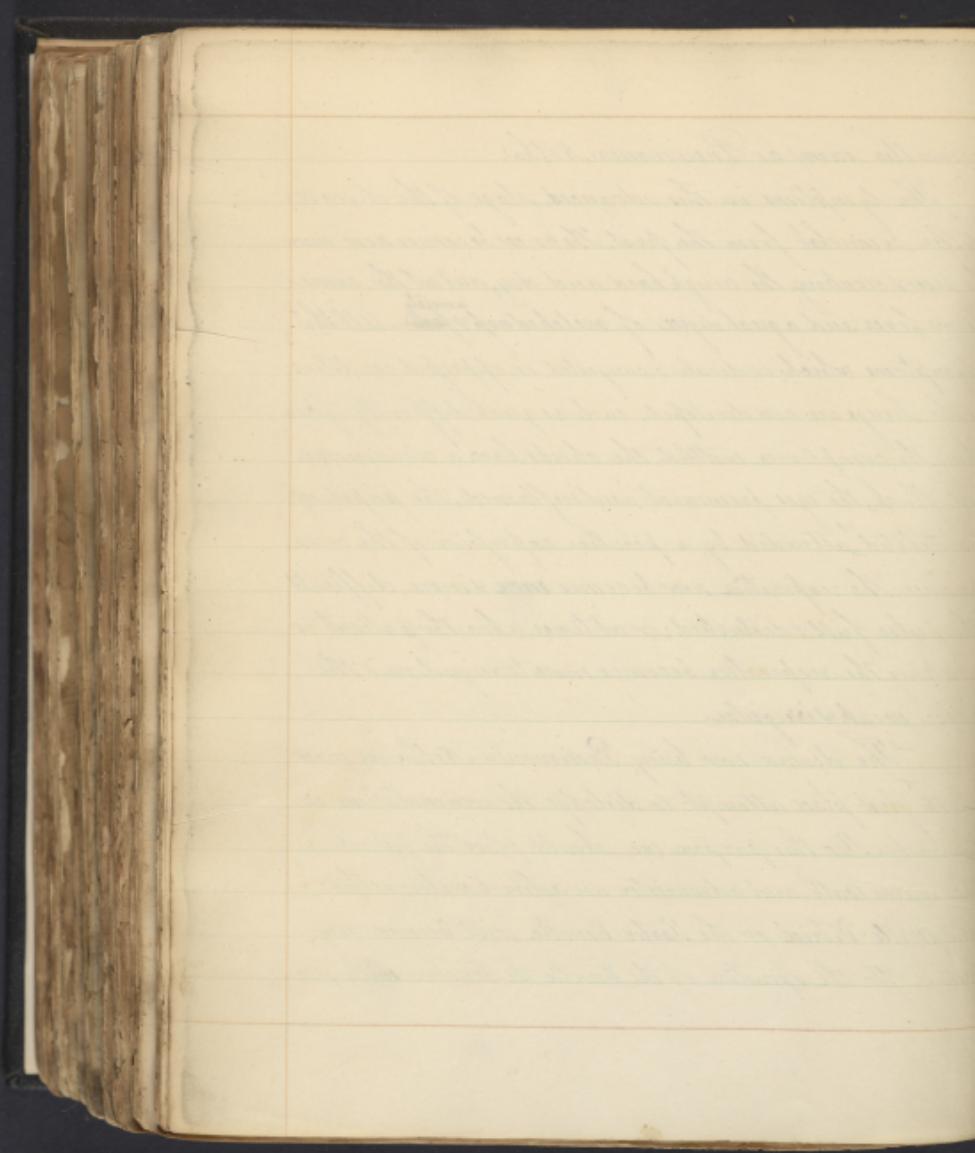
This is the treatment confined to the first stage of croup, when the disease is confined particularly to the upper part of the trachea, & consists either in an inflammation of the lining membrane or as Spasmodic constrictions of the larynx. By an active employment of the remedies above mentioned the disease may generally be cured; but if by any delay of the disease or by negligence, it is suffered to continue for eight or ten hours, it extends down the trachea and sometimes even to the lungs themselves, producing vast effusions of mucus or perhaps more generally coagulable lymph ^{and} in some instances a sanguinous congestion of these organs is the consequence as was the case in a deposition made by Dr. Ward of N. York. Then the disease evidently be-



comes the same as Pneumonia Notha.

The symptoms in the advanced stage of the disease differ somewhat from the first. The voice becomes now more hoarse & croaking, the cough hard and dry, and at the same time fever and a great degree of ~~restlessness~~^{anxiety}. All the symptoms which indicate a congested or oppressed condition of the lungs are now developed, such as great difficulty of breathing, the complexion mottled, the cheeks have a circumscripted flush, the eyes prominent and inflamed, the pupil often dilated, attended by a peculiar expression of the countenance. The respiration now becomes more & more difficult the pulse full & disturbed; or at times when the patient is sinking the respiration becomes more tranquil and the pulse weak & irregular.

The disease now being Pneumonia Notha we must in the first place attempt to dislodge the accumulations in the trachea. For this purpose we should place the patient in the warm bath, and administer an active Emetic; either the White Vitriol or the Tartar Emetic will answer very well. After the operation of the Emetic the trachea will gen-

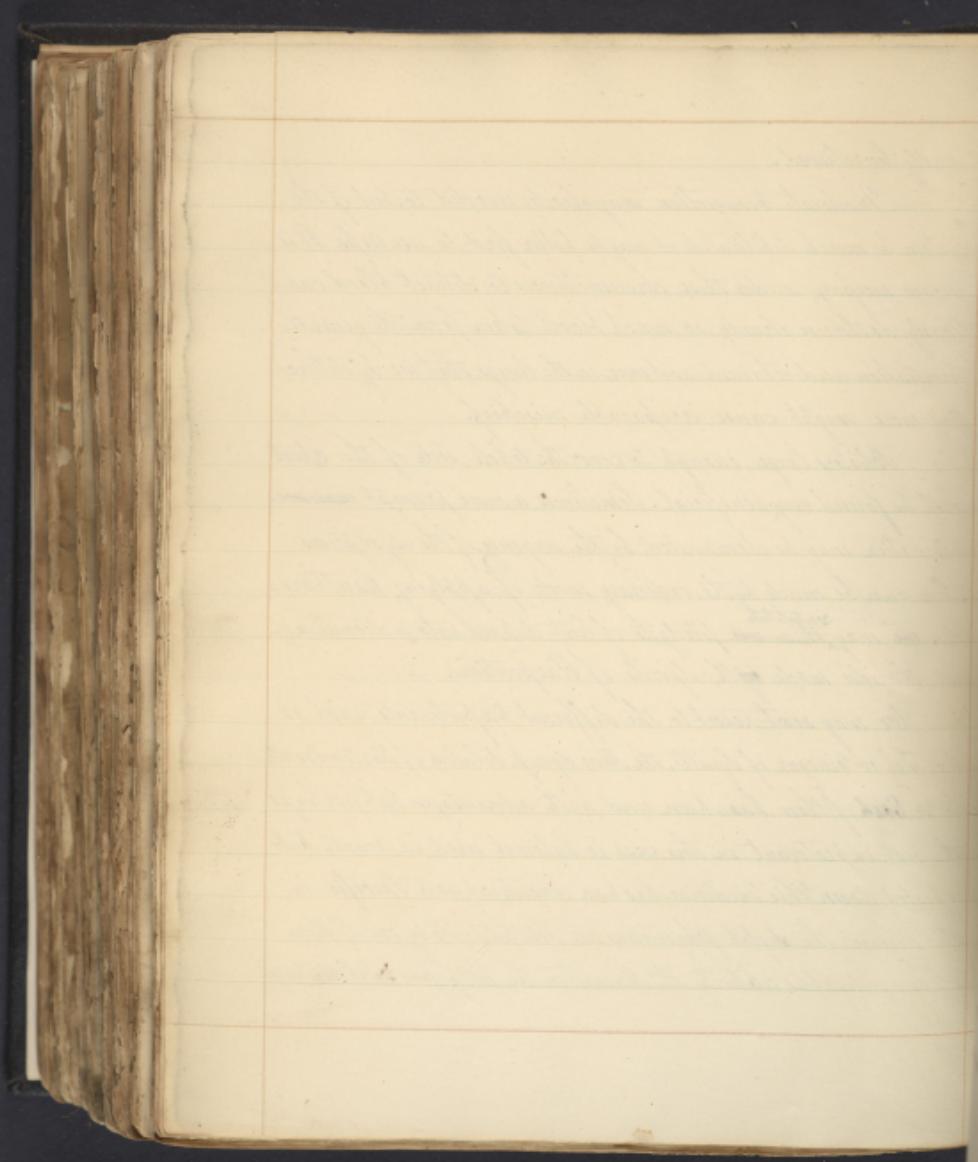


orally be relieved.

Moderate venesection may also be resorted to; but if the system be much debilitated it may be better first to use aperients, always recollecting under these circumstances to distract blood cautiously, as there is already so much blood taken from the general circulation and retained as it were in the lungs, that we by distract-
ing more might cause irreparable mischief.

Blisters large enough to cover the whole side of the chest will be found very beneficial. Sometimes a more prompt ~~resuscitation~~ resuscitation may be demanded by the urgency of the symptoms. This can be made by the ordinary mode of applying Camphar-
der; we ^{may} ~~take~~ ^{use} pledges of lint dipped into a decoction of Camphar-der made with Spirits of Turpentine.

We may next resort to the different Expectorants, such as
Oxyacid or Vinegar of Squills, the Ghee Syrup, Solution of Tartar Emetic,
i.e. &c. Each of them has been used with advantage: but perhaps
the best expectorant in this case is Salomil used in small but
repeated doses. This Medicine has been considered as a Specific in
this disease: the Scotch physicians are devoted to it: by one of them
of considerable celebrity Dr. Hamilton the professor at Edinburgh



it is spoken of in the most enthusiastic terms. He observes that if it be administered previous to the appearance of the lividity of the lips and other mortal symptoms, he has always succeeded in every case of Croup, without any shock to the constitution of the child. His mode of administering it would indeed appear to be bordering upon rashness, were we not to take into consideration the extreme insensibility of the system to our remedies in this disease. He has administered upwards of two hundred grains in the twenty four hours to a child two years old.

The Modus operandi of Calomel is I think intelligible; it stimulates the excretory vessels of the bronchia and lungs to action & thus enables them to throw off the mucus with which they are loaded.

Thus I have concluded this imperfect essay upon bronchial Tracheitis. I have intentionally passed over the operation of Bronchotomy or Laryngotomy in silence. It is now considered to be rarely if ever necessary, as we can not distinguish those cases in which it might prove serviceable. The operation is condemned by theyne as absurd & impracticable and says that no good & faithful surgeon should perform it.

